RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER
QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:
Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: ☐ Policy research ☒ Wisconsin Highway Research Program ☐ Other ☐ Pooled fund TPF#		Report period year: 2013 ☐ Quarter 1 (Jan 1 – Mar 31) ☐ Quarter 2 (Apr 1 – Jun 30) ☒ Quarter 3 (Jul 1 – Sep 30) ☐ Quarter 4 (Oct 1 – Dec 31)
Project title: Effective Depth of Soil Compaction in Relation to Applied Compactive Energy – Fine-Grained Soil Supplement Project		
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WisDOT project ID: 0092-08-11	Other project ID:	Project start date: 10/10/2007
Original end date:	Current end date:	Number of extensions: 3

Project schedule status:
☐ On schedule ☐ On revised schedule ☐ Ahead of schedule ☒ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
103914	0	102700	99	95

Project description:

The Wisconsin Department of Transportation has requested the evaluation of appropriate lift thickness for embankment construction under common compactors equipment used in Wisconsin. The lift thickness has direct engineering and economic implications in the design, construction and performance of geotechnical systems such as embankment, foundations and roads construction. The Geological Engineering research group at University of Wisconsin has proposed a series of experimental tests to monitor the compaction effort applied and how the soil properties varied with it. In addition, field monitoring of the compaction process will be performed during the next summer season. Data collected taken from the experimental tests and the field monitoring, recommendation of appropriated lift thickness will be given considering type of soil and compactor equipment.

The proposed work plan complements the study performed on the evaluation of effective depth of compaction on coarse-grained soils. This study will collect and evaluate data from actual embankment construction operations to evaluate the effective depth of compaction on fine-grained soils.

The proposed work plan will be divided in three phases:

I. Evaluation of the response and effect of compaction operations in fine-grained soils
II. Establish correlations between experimental data and theoretical/numerical predictive models
III. Draft recommendations for optimum lift thickness in Wisconsin embankment construction for coarse and fine-grained soils

Progress this quarter (includes meetings, work plan status, contract status, significant progress, etc.):

- We have coordinating with Adam Janz of RA Smith (262-379-0163) access to the Project 1030-24-76, CTH 11 Frontage Roads, Preconstruction site for testing.

- Our team (two graduate students and the PI) completed with OCIP safety orientation program. We also met with field engineers and WisDOT officials at the job site to coordinate access and operation.

- We have been informed that the project was starting after Labor Day. Our team is ready to go in a week notice.

- We were given several starting dates and during latest communications we are scheduled to start the final part of this project on October, Monday 6th, 2013.

Anticipated work next quarter:

We expect to complete this quarter with the field data collection at the Project 1030-24-76. We plan to submit the final report shortly thereafter.

Circumstances affecting project or budget:

We are working with WisDOT officials and Adam Janz of RA Smith to make sure we can complete the data collection. The project was current suspended till field data collection was completed. We are scheduled to go the field on the week of October 7, 2013. We are submitting NCE to provide a new project completion date.

Attach / insert Gantt chart and other project documentation

Phase I - Evaluation of the response and effect of compaction operations on actual embankment construction operations
Phase II - Theoretical/numerical and experimental evaluation of compaction efforts
Phase III - Establish correlations between experimental data and theoretical/numerical predictive models
Phase IV - Draft recommendations for optimum lift thickness
Phase V – Final Report

Table 1: Project time schedule

Phase Number	1.25 Years (15 months)				
	Quarter 1	**Quarter 2**	**Quarter 3**	**Quarter 4**	**Quarter 5**
Phase I	X	X		X (if required)	
Phase II		X	X	X	
Phase III		X	X		
Phase IV					X

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Staff receiving QPR: K. Dinkins	Date received: 10/4/2013
Staff approving QPR:	Date approved: